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## **Report for Belfast City Council: An evaluation of the ParkLife Education Programme**

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**QUEEN'S  
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BELFAST**



**REPORT FOR THE BELFAST CITY COUNCIL: AN EVALUATION  
OF THE PARKLIFE EDUCATION PROGRAMME**

**DR KAREN KERR**

**OCTOBER 2017**





# **Report for Belfast City Council: An evaluation of the ParkLife Education Programme**

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October 2017

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# Glossary of terms

**Closed question:** a question with a defined set of responses to choose from. For example; yes, no, not sure or strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

**Cohort:** a group of people with a common characteristic. In the case of the current study, this refers to the group of children involved in the ParkLife Education programme.

**KIDSCREEN 10:** this is a set of health related quality of life questions for use with children and adolescents. It was designed by Ravens-Sieberer et al. (2010).

**Likert scale:** a group of questions used to ascertain people's attitudes towards something. For example, strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

**Mean scores:** A mean is the same as an average score.

**N=** in this study, this is shorthand for 'number of respondents'. For example n=124 means that 124 children answered the specific question being presented.

**Open question:** a question that does not have a defined set of responses to choose from. Respondents are presented with a blank space to provide their own answer.

**Paired samples t-test:** a t-test is a statistical analysis used to compare mean scores from a set of results (or answers to questions) to see how they are related and, in relating to this study, whether or not differences in the mean scores are a result of chance or a result of engagement with the programme. A paired t-test is used to compare two mean scores where you have two samples (i.e. pre and post responses) in which observations in one sample can be paired with observations in the other sample.

**Reliability:** there are various different reliability constructs and measures in research. In the current study, a statistical test called Cronbach's alpha was used. This measures the internal consistency of a group of questions (a scale) to see how closely related a set of questions are as a group. In other words, if they belong together (are about the same thing) and have been understood by the respondents as belonging together.

**Scale:** a group of questions that belong together as they are about the same concept and/or are measuring the same construct.

**Statistically significant difference:** when a result is not attributed to chance. In other words, in relation to this study when there is a difference between responses before and after the programme and it is very unlikely to have occurred because of the chance – it can be said to be attributed to the intervention or programme. This can be in a positive or negative direction. In this study, a positive direction shows a beneficial impact of the programme.

**Subscales:** this is a smaller set of questions with a larger scale, which are about part of a concept and/or are measuring a theme within a larger scale.







# Executive summary

An evaluation of the Belfast City Council's (BCC) ParkLife Education Programme was carried out between September 2016 and June 2017. In total, 154 children in eight schools in the Belfast area took part in the evaluation for the programme. They completed pre-programme and post-programme online questionnaires which included a range of measures designed to investigate the primary and secondary outcomes of the programme. The results indicate a positive impact for all of the programme outcomes and engagement with the Parklife Education Programme was a positive experience for the children involved.

The ParkLife Education Programme is managed by Belfast City Council and is delivered by Ulster Wildlife along with Council staff. It is an education programme which uses and promotes the Council's parks and open spaces as a resource for outdoor learning and is designed to encourage children and their families to get outdoors and explore their local parks. The ParkLife Education Programme has three main elements: schools, Saturday Clubs and community groups. This evaluation focuses on the school element of the programme.

A total of 154 children completed the pre-programme online questionnaire and 143 children completed the post-programme questionnaire. In total, 60% of the children are girls, 40% are boys and all of the children were aged between 8 and 10 years old. The majority were born in Northern Ireland or Ireland (91%) and only 41% of the children said they had lessons outdoors before. The majority of children said 'no', they did not know anyone who had taken part in the programme before or responded 'don't know' (86% in total).

In relation to engagement with parks, in the post-programme questionnaire, more children selected the options which represent a higher frequency of visits to their park (for example, every day) and fewer children recorded 'Never'. More children also reported going to the park with their family, friends and with their teacher and to take part in more activities. Of particular note is the increase in the percentage of children who reported going to the park to 'enjoy nature' (pre = 33%, post = 48%) and to 'play' (pre = 61%, post = 80%). In relation to the children's favourite activities outside school, there was an increase in the percentage of children who mentioned outdoor/ nature activities (pre=0, post=12%). This is a noteworthy finding given that the children were responding to an open question and had the choice to write whatever they wanted in the response space. More children gave correct responses to the each of the knowledge based questions designed to test the main knowledge content of the programme.

The children rated their connection to nature, overall and across all subscales, as higher in the post-programme questionnaire. In other words, the children were more positive about their general connection to nature, their empathy for creatures, their sense of oneness with nature, their sense of responsibility for nature and their enjoyment of nature. It is particularly good that there was a positive change in all these areas. Whilst the children in this study had a slightly higher score in most areas (with the exception of 'sense of responsibility') in comparison to a

national baseline (Kerr, 2015), their scores on the post-programme questionnaire were much higher than their scores on their pre-questionnaire and in comparison to all areas of the baseline.

The children's answers were more positive for eight out of 11 items relating to attitudes to environmental sustainability. In particular, there was a statistically significant positive difference for the question related to nature being strong enough to handle the damage caused by our modern lifestyles and the question related to people treating nature very badly. When asked to write down a problem happening in the environment 'at the moment', the children's responses on the post-programme questionnaire evidenced a greater variety of issues. For example, whilst there was more of a focus on littering/rubbish/dirt/trash and animal cruelty/dying in the pre and post-programme questionnaires the children also recorded wider issues such as animals having no food or homes, being endangered/not free and that bugs and plants are being harmed. They also focused more on pollution in the post-programme questionnaire. This is noteworthy given that this question was an open response item and the children had the choice to write any response in the answer space.

The children's answers were more positive for four out of five items relating to attitudes to learning outdoors. In particular, there was a statistically significant positive difference for two questions related to whether or not they liked learning outdoors and if they thought it was too difficult. When asked to record a word which best describes how they feel about learning outdoors, a higher percentage of responses were positive in the post-programme questionnaire (92.8%) compared with the pre-programme questionnaire (83.7%). For example, approximately 50% of the post-programme responses related to being happy, that learning outdoors is 'good' or 'fun' and that they loved it/liked it and were excited. An increase in open responses is noteworthy, as children could have responded in any way, given that there were no set response options for this question.

The children's answers were more positive for nine out of 10 items relating to health and well-being. In particular, the children were statistically significantly more positive about their energy levels, how they feel and if they are able to pay attention in school at the end of the programme. These are positive results and demonstrate the impact of the programme on the children's perceptions of their health and well-being.

When asked several questions about their experiences and reflections on the ParkLife Education Programme, the children were very positive, with 93% saying they enjoyed learning outdoors during the programme with 93% of subsequent open responses also being positive and mainly focused on how fun the programme was and the learning which took place. Again, this is noteworthy given that the children were presented with an open response box and could have chosen to write anything. When asked about their two best memories of the programme, 96.4% of the open responses were positive and the children talked about a wide range of specific activities which they took part in. For example, the most common responses were about 'learning' (animals/bugs/nature), 'digging/for worms', finding/collecting/looking at mini beasts/bugs and feeling/seeing things. All of these activities are a major part of the ParkLife Education Programme and the children remember them very well and fondly.

When asked if there were any problems when they were learning outdoors, 82% of the children who responded said there were no problems and, in a follow up open question, the majority

of children said there were no problems. When asked if they still have worries about learning outdoors, after the programme, 64% of the comments were 'none/nothing/liked it' and of the 26% of negative comments, only 17% could be related to the learning (17 comments). The majority of these comments were not about the ParkLife education programme but were about environmental or animals cruelty issues (9 comments, 9%), worries about 'getting things wrong' (7 comment, 7%), getting hurt/stung (5 comments, 5%) or being scared/worried/didn't like it (5 comments, 5%). Many of the comments relating to how the children would teach in the outdoors were a reflection of how the ParkLife Education Programme was taught, indicating that they were positive about how it was delivered.

As a result of the positive findings from this evaluation, it is apparent that learning outdoors in local parks through the ParkLife Education Programme, is a very positive experience for children across all the primary outcomes measured (Spend more time engaging with nature in their local parks; Have learned more about their local park; Be more connected to nature). It was also a very positive experience across all the secondary outcomes measured (Have more positive attitudes towards and awareness of environmental sustainability, Have more positive attitudes to learning outdoors, Rate their health and well-being as higher). As a result of the findings, the ParkLife Education Programme should be considered as good practice and so the programme should continue to be delivered in its current model so many more children can benefit. Belfast City Council should consider sharing their learning from the programme and this report with other councils and organisations. It is also recommended that this evaluation be continued with subsequent cohorts to increase the sample size, to look in more depth at the programme and to build a bigger evidence base (to include a qualitative study) as well as to consider potential further outcomes not considered in the current study.

# Background

This report presents findings from an evaluation of the Belfast City Council's (BCC) ParkLife Education Programme which ran between September 2016 and June 2017. In total, 169 children in eight schools in the Belfast area took part in the evaluation for the programme. They completed pre-programme and post-programme questionnaires which included a range of measures designed to investigate the primary and secondary outcomes of the programme.

This report will outline the background to the ParkLife Education Programme and its evaluation to include details on the sample, the measures used for each of the outcomes under consideration, the findings as well as conclusions and recommendations.

## 1.1 The Parklife Education Programme

The ParkLife Education Programme is managed by Belfast City Council and is delivered by Ulster Wildlife along with Council staff. It is an education programme which uses and promotes the Council's parks and open spaces as a resource for outdoor learning and is designed to encourage children and their families to get outdoors and explore their local parks. The concept behind the programme is for children to:

- care for their local park
- learn about their local park
- meet new friends
- interact with other children
- play and exercise
- enjoy the fresh air, and
- become self-reliant

The ParkLife Education Programme has three main elements: schools, Saturday Clubs and community groups. This evaluation focuses on the school element of the programme whereby supervised sessions in parks are provided to schools throughout the year. The children walk to their local park where they can learn about a range of topics such as:

- animal and bird survival
- how trees change with the seasons, and
- history and heritage in our parks.

The school element of the programme consists of five sessions with each school throughout the school year. Two sessions are classroom based whilst the remaining three sessions take place in the local park. The programme is designed to be closely linked to the curriculum and is delivered to Key Stage two children (aged between 8 and 11) in 40 schools across Belfast. The evaluation presented here included a sample of eight schools who took part in the programme between September 2016 and June 2017.



## 1.2 The Evaluation

Queen's University Belfast, acting as external evaluators, and commissioned by Belfast City Council to examine the effectiveness of their ParkLife Education Programme, carried out the evaluation presented in this report. The evaluation comprised two online questionnaires: one carried out by the children before they took part in the programme (September 2016) and one carried out after the programme was complete (June 2017).

The evaluation was designed to investigate the stated primary and secondary outcomes of the ParkLife Education Programme. The Primary outcomes were that, as a result of taking part in the programme, the children will:

- Spend more time engaging with nature in their local parks
- Have learned more about their local park
- Be more connected to nature

The secondary outcomes were that, as a result of taking part in the ParkLife Education Programme, the children will:

- Have more positive attitudes towards and awareness of environmental sustainability
- Have more positive attitudes to learning outdoors
- Rate their health and well-being as higher

In order to investigate these outcomes a range of measures were included in the questionnaire. The outcomes, matched to the corresponding measures are outlined in Table 1 (overleaf). Several background factors were also included in the questionnaire: age, gender, school and county of birth. The children were also asked if they have had lessons in the outdoors before and, if yes, where it was and what did. They were also asked if they knew anyone who had previously taken part in the ParkLife Education Programme and, if so, who it is.

In the post-programme online questionnaire the children were also asked to evaluate the programme for themselves with a specific set of questions:

- Did you enjoy learning outdoors during the ParkLife Education Programme? Why or why not?
- After the ParkLife Education Programme, what are your two best memories of learning outdoors?
- During the ParkLife Education Programme, were there any problems when you were learning outdoors? If so, what were they and how were they put right?
- Now that the ParkLife Education Programme is over, what worries do you still have about learning outdoors?
- If you were running the ParkLife Education Programme, how would you teach in the outdoors?

Outcome	Measures/questions
<b>Primary outcomes</b>	
Spend more time engaging with nature in their local parks	<ul style="list-style-type: none"> <li>• Frequency of park visits</li> <li>• Activities you do in your park</li> <li>• Favourite activity outside school</li> </ul>
Have learned more about their local park	<ul style="list-style-type: none"> <li>• Multiple choice questions directly related to the programme content</li> </ul>
Be more connected to nature	<ul style="list-style-type: none"> <li>• Connection to Nature Index (Cheng and Monroe, 2010)</li> </ul>
<b>Secondary outcomes</b>	
Have more positive attitudes towards and awareness of environmental sustainability	<ul style="list-style-type: none"> <li>• The New Ecological Paradigm scale for children (adapted from Manoli, Johnson and Dunlap, 2007)</li> <li>• Write down a problem that's happening in the environment at the moment</li> </ul>
Have more positive attitudes to learning outdoors	<ul style="list-style-type: none"> <li>• Attitudes to learning outdoors scale (adapted from Kerr, 2014)</li> <li>• Word to describe how you feel about learning outdoors</li> </ul>
Rate their health and well-being as higher	<ul style="list-style-type: none"> <li>• KIDSCREEN 10 (Ravens-Sieberer et al., 2010)</li> </ul>

**Table 1: An outline of the measures used in the evaluation, matched to the primary and secondary outcomes for the ParkLife Education Programme.**

A complete list of all the questions, scales and answer choices are listed in Appendix 1. Section 2 will present the findings from the measures used to examine the primary outcomes, section 3 considered the findings related to the secondary outcomes. The children's responses to the questions asking them to evaluate the programme are presented in Section 4 whilst Section 5 brings together the key findings and recommendations.

### 1.3 The sample

In total, 169 children took part in the evaluation, across eight schools in the Belfast area. A total of 154 children completed the pre-programme online questionnaire and 143 children completed the post-programme questionnaire. The difference in the number of responses between the pre-programme questionnaire and post-programme questionnaire was caused by absence on the day of testing and, in the case of one small school, withdrawal from the post-evaluation due to issues around potential closure of the school. Of the children who completed the pre-programme questionnaire:

- 60% of the children are girls, 40% are boys. A difference in the gender balance can be explained by the fact that one of the large schools has a girls-only intake.
- All of the schools were in the Belfast or Greater Belfast area
- 54% of the children recorded that they were 8 years old, 44% said they were 9 years old, 1% said they were 10 years old and a further 1% reported that they were 11 years old.
- 83% said they were born in Northern Ireland, 8% said they were born in the Republic of Ireland/Ireland with a 1% representation from each of the following countries: Algeria, England, Hungary, India, Indonesia, Nigeria, Poland, Sudan, Syria. A further

1% of the children recorded 'I don't know' when asked which country they were born in.

- 41% of the children said they had lessons outdoors before, 35% said they had not and 24% responded 'don't know'. Of the children who responded 'yes', 20 said they had lessons in a local park, 12 said the school grounds, six at a club, four on holidays/outside Belfast, three with family, two in a forest and two in a museum/planetarium. Of the children who responded 'yes', 24 said they learned about animals/plants/nature, seven said PE, four said it was other school content (e.g. reading, maths), two said playing and one child said they went camping.
- 50% of the children said they did not know anyone who took part in the ParkLife Education programme before, 36% responded 'don't know'. 14% said they did know someone with 6% saying this person/these people were 'a friend', 6% saying it was a family member, 1% saying 'my class' and 1% saying 'another class in school'. These findings would suggest that the majority of children who took part in the evaluation were not aware of the ParkLife Education Programme before they took part.

## 1.4 Statistical reliability and analyses

The raw data was uploaded into and analysed in a Statistical Package for Social Scientists (SPSS) file. All calculations of mean scores and statistical analyses were conducted using SPSS. The statistical reliability of the relevant scales (groups of questions) was conducted using Cronbach's alpha coefficient which is used for 'multi-item scales' and considers the internal consistency of the scale (Cohen, Manion and Morrison, 2011, p.640). As a guide, a Cronbach's alpha coefficient of 0.60 to 0.69 is marginally/minimally reliable, 0.70 to 0.79 is reliable, 0.80 to 0.90 is highly reliable and >0.90 is very highly reliable (Cohen et al., 2011).

The Cronbach's alpha coefficient for the Connection to Nature scale for the current data set (pre-programme questionnaire) was  $\alpha=0.90$ . The Cronbach's alpha coefficients for the four subscales were also calculated. These were  $\alpha=0.82$  for the Enjoyment of nature subscale,  $\alpha=0.79$  for the Empathy for creatures subscale,  $\alpha=0.62$  for the Sense of Oneness subscale and  $\alpha=0.51$  for the Sense of responsibility subscale. This means that the Connection to Nature scale and all four subscales can be considered to have acceptable internal consistency for presentation as scales in this report.

The Cronbach's alpha coefficient for Attitudes to learning outdoors scale was  $\alpha=0.51$  which is borderline reliable as a scale and will be presented as such in this report. However, readers should interpret the findings related to the mean scores for this scale with caution as the reliability score falls slightly short of the recommended value ( $\alpha=0.60$ ).

The other scales: attitudes to environmental sustainability and KIDSCREEN 10 did not evidence high enough reliability scores and so these will be presented item by item in the relevant sections.

For the purposes of this report, other analyses were conducted using SPSS for the quantitative questions (with fixed responses, whereby children select from the responses given). These included descriptive statistics (percentage of responses, mean scores, standard deviation) and/or t-tests, where relevant, to look for statistically significant differences between

responses at pre and post-test. Statistically significant differences can be in a positive or negative direction. All of the statistically significant results for the ParkLike Education Programme, presented in this report, were in a positive direction meaning the impact reported were positive. Conducting such tests allows for comparisons to be drawn between responses given by the children before they took part in the ParkLife Education Programme and after they took part.

Several questions had open responses (a free space to write their own response). For these questions, the responses were themed and coded using an iterative process similar to the process of qualitative data analysis outlined by Chi (1997). In other words, the children's comments/responses were 'grouped' according to similarity and the process of coding and categorisation resulted in constructs taken from the children's answers to the questions in the online questionnaire.

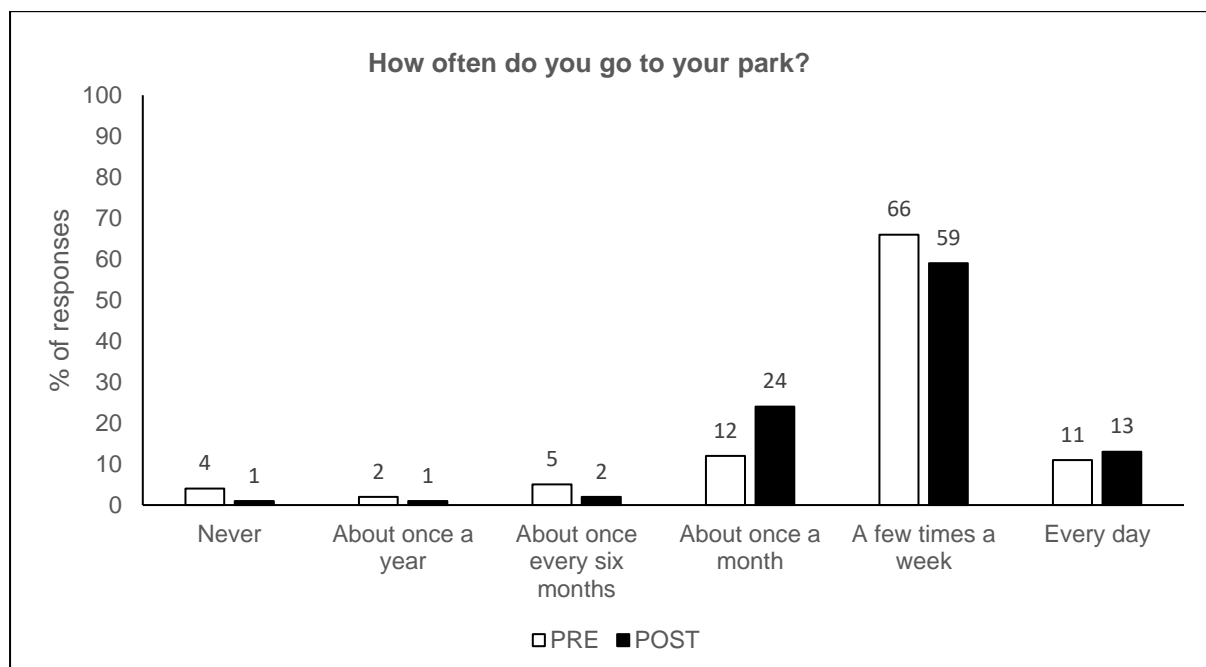
# Primary outcomes

## 3.1 Spend more time engaging with nature in their local parks

In order to evaluate whether or not the programme had an impact on the children's level of engagement with their local park, responses to the following questions were analysed:

- How often do you go to your park? (*One response from: Never, About once a year, About once every six months, About once a month, A few times a week, Every day*)
- When you go to your park, who do you go there with? (*Multiple responses could be chosen from: On my own, With my family, With my friends, With school [my teacher], With a club, Other*)
- What activities do you do in your park? (*Multiple responses could be chosen from: Play, Go for a walk, Ride a bike, Enjoy nature, Meet friends, Play sports, Take a shortcut, Attend events, Walk the dog, Attend clubs, I don't know, Other*)
- What is your favourite activity outside school? (*Open response, children were free to write whatever they wanted in a blank box*)

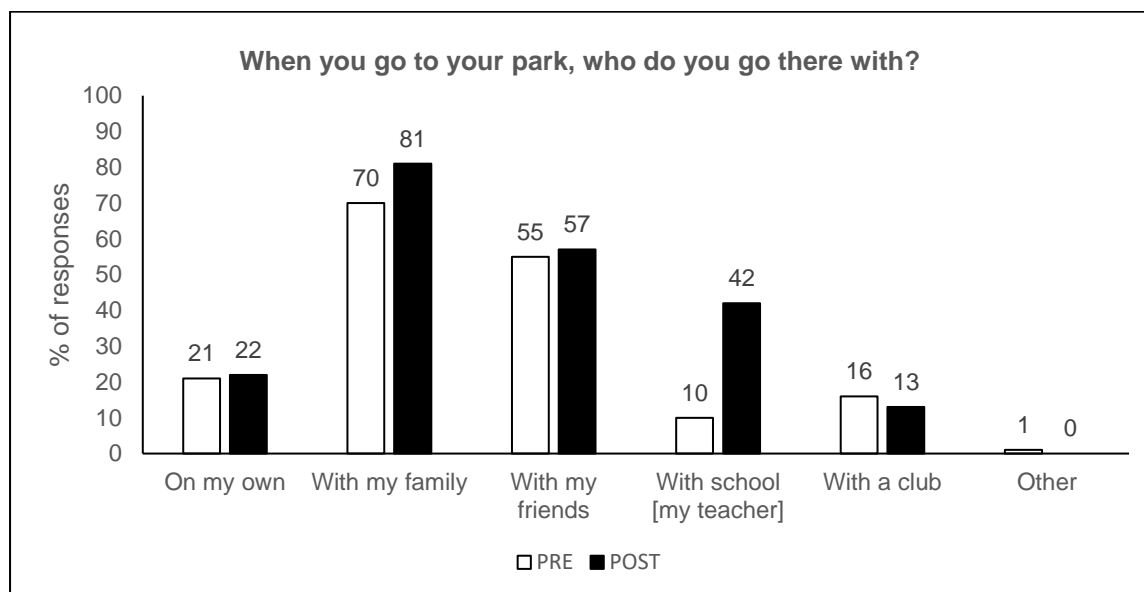
Figure 1 presents the **percentage of responses** for the question related to how often they go to their park, both in the pre and post questionnaire.



**Figure 1: A bar graph to show the percentage of responses for frequency of park visits (pre and post). n=149 (pre), 140 (post)**

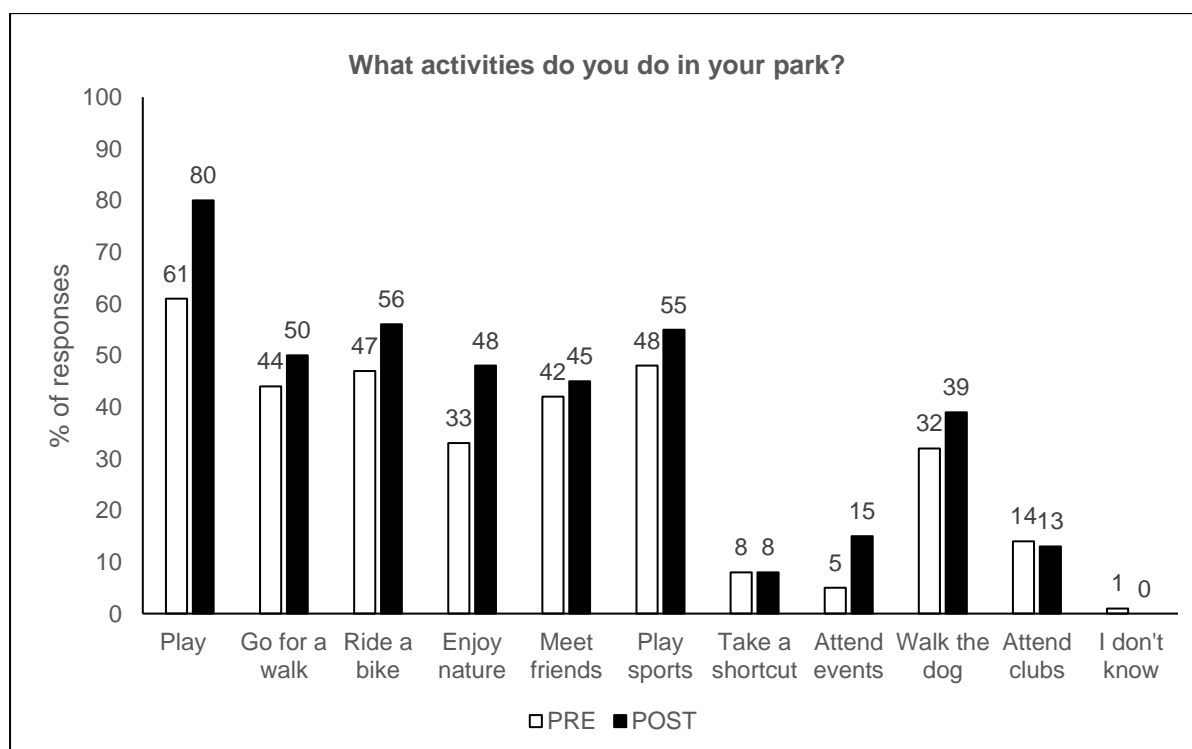
Figure 2 shows the children's selections with regard to who they go to the park with, both before they took part in the ParkLife Education Programme (pre) and after (post).





**Figure 2: A bar graph to show the percentage of responses for who the children go to the park with (pre and post). n=154 (pre), 143 (post)**

Figure 3 presents the findings related to the activities the children do in their park to show what they selected before they took part in the ParkLife Education Programme (pre) and after (post).



**Figure 3: A bar graph to show the percentage of responses for activities in the park (pre and post). n=154 (pre), 143 (post)**

Children also responded to the open question 'What is your favourite activity outside school?' Table 2 presents their responses, comparing pre and post responses.

Activity	PRE		POST	
	Frequency of response	% of responses	Frequency of response	% of responses
Football	40	26.3	31	20.8
Other sports/sporting games	40	26.3	35	23.5
Playing (generally/with pets)	13	8.6	8	5.4
'Playground' games	12	7.9	20	13.4
Spending time with friends/family	9	5.9	9	6.0
Going to/playing in the park	8	5.3	6	4.0
Screen time (computers and TV)	8	5.3	11	7.4
Cycling/bike activities	6	3.9	1	0.7
Art/crafts/baking	5	3.3	3	2.0
Don't know/nothing/other	5	3.3	3	2.0
Martial arts/boxing	4	2.6	1	0.7
Reading/writing/maths	2	1.3	3	2.0
Outdoor/nature activities	0	0	18	12.1
<b>TOTAL</b>	<b>152</b>		<b>149</b>	

**Table 2: A summary of the children's responses to 'What is your favourite activity outside school?' (pre and post)**

These results indicate that, after the ParkLife Education programme, more children selected the options which represent a higher frequency of visits to their park ('a few times a week' and 'Every day') and fewer children recorded 'Never'. More children reported going to the park with their family, friends and with their teacher in the post-programme questionnaire. More children also reported going to the park for almost all of the listed activities. Of particular note is the increase in the percentage of children who reported going to the park to 'enjoy nature' (pre = 33%, post = 48%) and to 'play' (pre = 61%, post = 80%). In relation to the children's favourite activities outside school, of particular note is the increase in the percentage of children who mentioned outdoor/ nature activities (pre=0, post=12%) particularly given that this was an open response question.

## 3.2 Learned more about their local park

The children were asked a series of questions to test their knowledge of common concepts taught during the ParkLife Education Programme. These were multiple choice questions, whereby the children had to choose the one correct answer from a list containing that one correct answer mixed up with several incorrect answers. They could also select 'I don't know' (See Appendix 1 for a complete list of the questions and answers). The questions are outlined below together with the percentage of children who answered correctly in the pre-programme questionnaire and the post-programme questionnaire:

- What are sycamore seeds often called? (pre: 32%; post: 52%)
- When do flowers appear on Daffodils? (pre: 56%; post: 59%)

- Who owns your park? (pre: 3%; post: 5%)
- Which was the first free park to open in Belfast? (pre: 9%; post: 16%)
- Which of these is the lightest? (pre: 76%; post: 78%)
- Why are hedges important? (pre: 3%; post: 12%)
- Why are animals different colours? (pre: 6%; post: 10%)

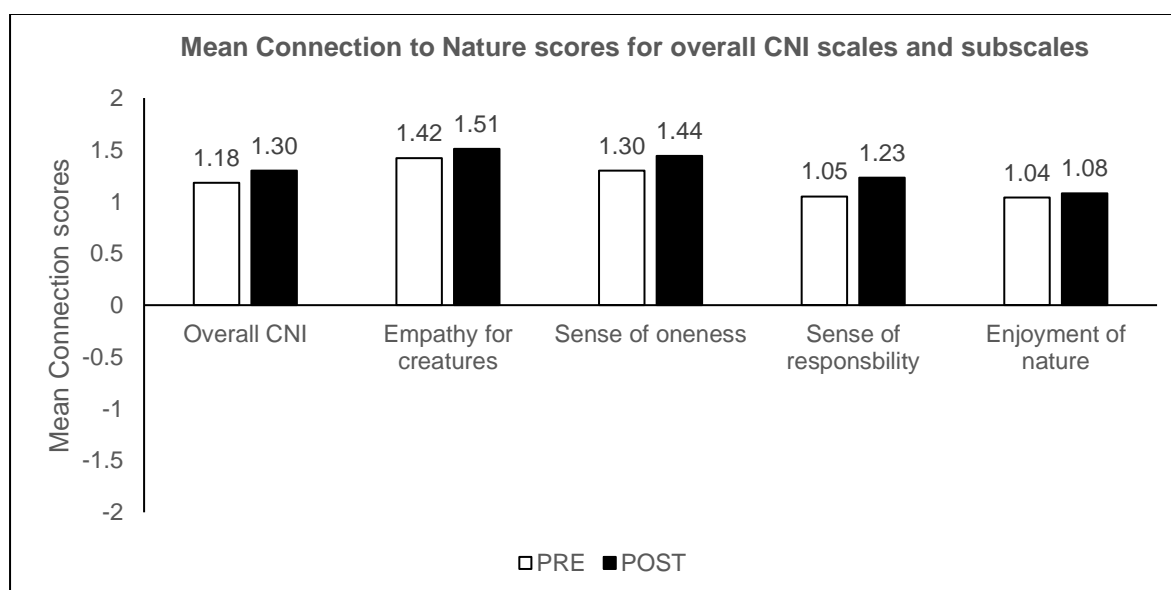
For all seven knowledge based questions, a higher number of children gave correct answers in the post-programme questionnaire compared to the pre-programme questionnaire.

### 3.3 Connection to nature

The children's Connection to Nature (CNI) overall score was calculated on a scale from -2 to 2 and the children's scores on each of the four subscales (Empathy for creatures, Sense of oneness, Sense of responsibility, Enjoyment of nature) were calculated on a scale from -2 to 2. The mean Connection to Nature scores for the children in this study was **1.18** (n=124, SD=0.67) at pre-programme and **1.30** (n=116, SD=0.44) at post-programme. The mean scores on the subscales, in order of highest to lowest, for the children in this study are as follows:

- Empathy for creatures subscale: mean score=**1.42** (n=142, SD=0.71) at pre-programme and **1.51** (n=129, SD=0.55) at post-programme
- Sense of oneness subscale: mean score=**1.30** (n=143, SD=0.73) at pre-programme and **1.44** (n=135, SD=0.56) at post-programme
- Sense of responsibility subscale: mean score=**1.05** (n=148, SD=0.83) at pre-programme and **1.23** (n=138, SD=0.66) at post-programme
- Enjoyment of nature subscale: mean score=**1.04** (n=139, SD=0.76) at pre-programme and **1.08** (n=128, SD=0.65) at post-programme

Figure 4 presents the **mean scores** for the overall CNI scale and each of the four subscales for the children who took part in this evaluation:



**Figure 4: A bar graph to show the mean scores for the overall CNI scale and each of the four subscales.**

These results show that the children rated their connection to nature, overall and across all subscales, as higher at the end of the ParkLife Education Programme. In other words, the children were more positive about their general connection to nature, their empathy for creatures, their sense of oneness with nature, their sense of responsibility for nature and their enjoyment of nature. It is particularly good that there was a positive change in all these areas. The children in this study had a slightly higher score in most areas (with the exception of 'sense of responsibility') in comparison to a national baseline conducted with a much larger sample of 2,240 children in Northern Ireland (Kerr, 2015). However, their scores on the post-programme questionnaire were much higher than their scores on their pre-questionnaire and in comparison to all areas of the baseline. It is important to note that the pattern of scores across the different subscales, from highest (Empathy for creatures) to lowest (Enjoyment of nature), is the same as the pattern found in the larger baseline study, also carried out in Northern Ireland (Kerr, 2015).

# Secondary outcomes

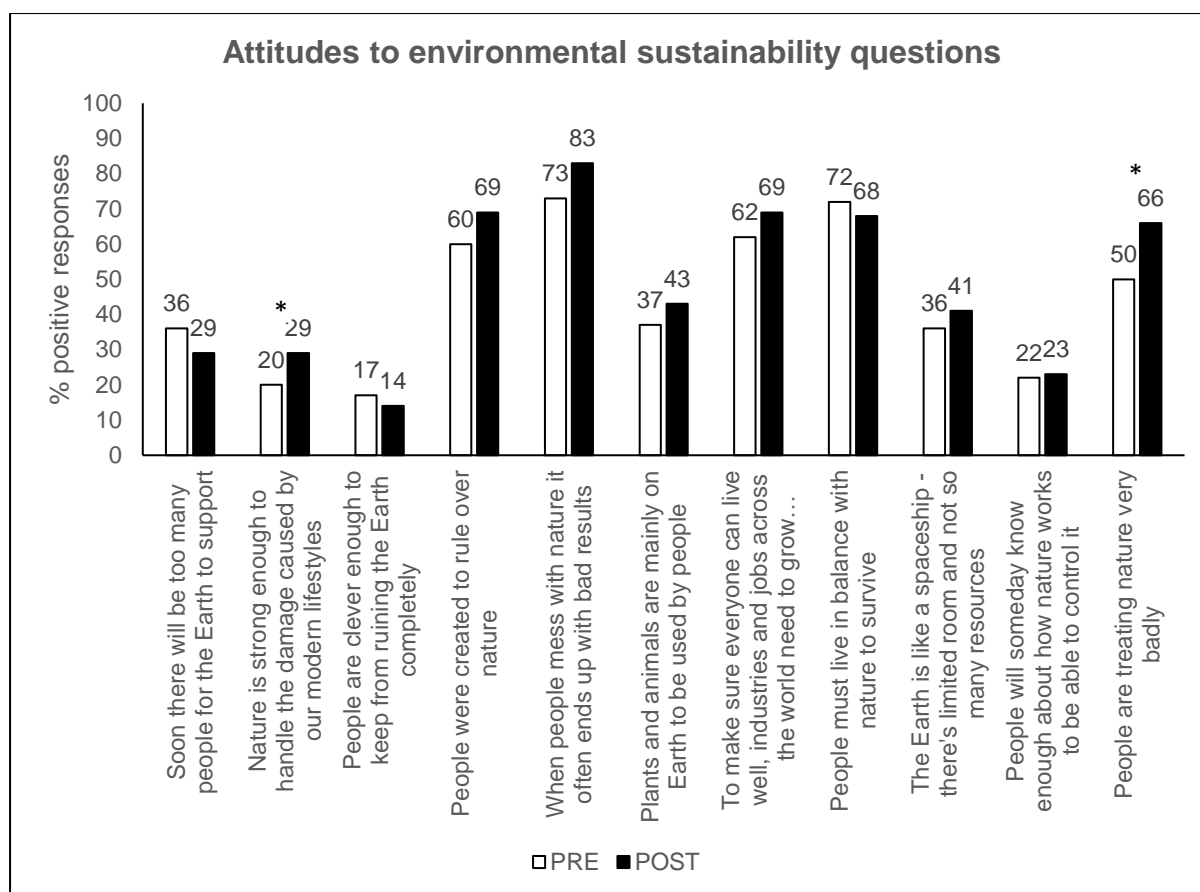
## 4.1 Attitudes towards and awareness of environmental sustainability

The children were asked to respond to an adaptation of The New Ecological Paradigm scale for children (adapted from Manoli, Johnson and Dunlap, 2007). This scale is designed to measure children's views of environmental sustainability. The following questions were on the pre-programme and post-programme questionnaires:

- Soon there will be too many people for the Earth to support
- Nature is strong enough to handle the damage caused by our modern lifestyles
- People are clever enough to keep from ruining the Earth completely
- People were created to rule over nature
- When people mess with nature it often ends up with bad results
- Plants and animals are mainly on Earth to be used by people
- To make sure everyone can live well, industries and jobs across the world need to grow steadily, not too fast
- People must live in balance with nature to survive
- The Earth is like a spaceship - there's limited room and not so many resources
- People will someday know enough about how nature works to be able to control it
- People are treating nature very badly

A full outline of the questions and response options are outlined in Appendix 1. Figure 5 presents the percentage of positive responses for each of the items at pre-programme and post-programme.





**Figure 5: A bar graph to show the percentage of positive responses for the questions related to attitudes to environmental sustainability (pre and post), n=150 (pre), 140 (post). \* represents a significant difference at  $p < 0.05$ .**

Figure 5 shows that the children's responses were more positive for eight out of the 11 items related to attitudes to environmental sustainability. A paired samples t-test was conducted for each of the items to compare if the mean scores at pre-programme and post-programme were statistically significantly different. This was the case for two items which evidenced a difference in a positive direction. In other words, the children answered more positively at the end of the programme:

- Nature is strong enough to handle the damage caused by our modern lifestyles ( $p=0.029$ )
- People are treating nature very badly ( $p=0.022$ )

As a general rule, a p-value of  $< 0.05$  indicates a statistically significant difference, a p-value of  $< 0.01$  indicates a highly significant difference and a p-value of  $< 0.001$  indicates a very high significant difference.

The children were also asked to 'write down a problem that's happening in the environment at the moment' both in the pre and post questionnaire. The results are presented in Table 3.

Problem	PRE		POST	
	Frequency of response	% of responses	Frequency of response	% of responses
Littering/rubbish/dirt/trash	43	49.4	43	43.4
Animal cruelty/dying	13	14.9	10	10.1
Trees cut down/burned	9	10.3	9	9.1
Animals and rubbish (inc. in the sea)	5	5.7	5	5.1
Animals having no food or homes	3	3.4	2	2.0
Animals – endangered/not enough of them	0	0	3	3.0
Animals – not free/in zoos	0	0	2	2.0
Animals – fighting	0	0	2	2.0
Bugs being harmed	0	0	1	1.0
Plants being harmed	0	0	2	2.0
Treating nature badly/don't care/not good/hurting/wrecking nature	7	8.0	5	5.1
Pollution (including general/air/sea)	0	0	6	6.1
Don't know/nothing	7	8.0	9	9.1
<b>TOTAL</b>	<b>87</b>		<b>99</b>	

**Table 3: A summary of the children's responses to 'Write down a problem that's happening in the environment at the moment' (pre and post)**

It is interesting to note that whilst there was more of a focus on littering/rubbish/dirt/trash and animal cruelty/dying in the pre and post-programme questionnaires the children also recorded wider issues such as animals having no food or homes, being endangered/not free and that bugs and plants are being harmed. They also focused more on pollution in the post-programme questionnaire. This is noteworthy given that this question was an open response item and the children had a choice to write any response in the answer space.

These results show that, for eight out of 11 items related to attitudes to sustainability, the children in this evaluation answered more positively in the post-programme questionnaire compared to the pre-programme questionnaire. In particular, there was a positive statistically significant difference in the pre and post responses to two items: 'Nature is strong enough to handle the damage caused by our modern lifestyles' (at  $p < 0.05$ ) and 'People are treating nature very badly' (at  $p < 0.05$ ). When asked to write down a problem happening in the environment at the moment, the children's responses on the post-programme questionnaire evidenced a greater variety of issues.

## 4.2 Attitudes to learning outdoors

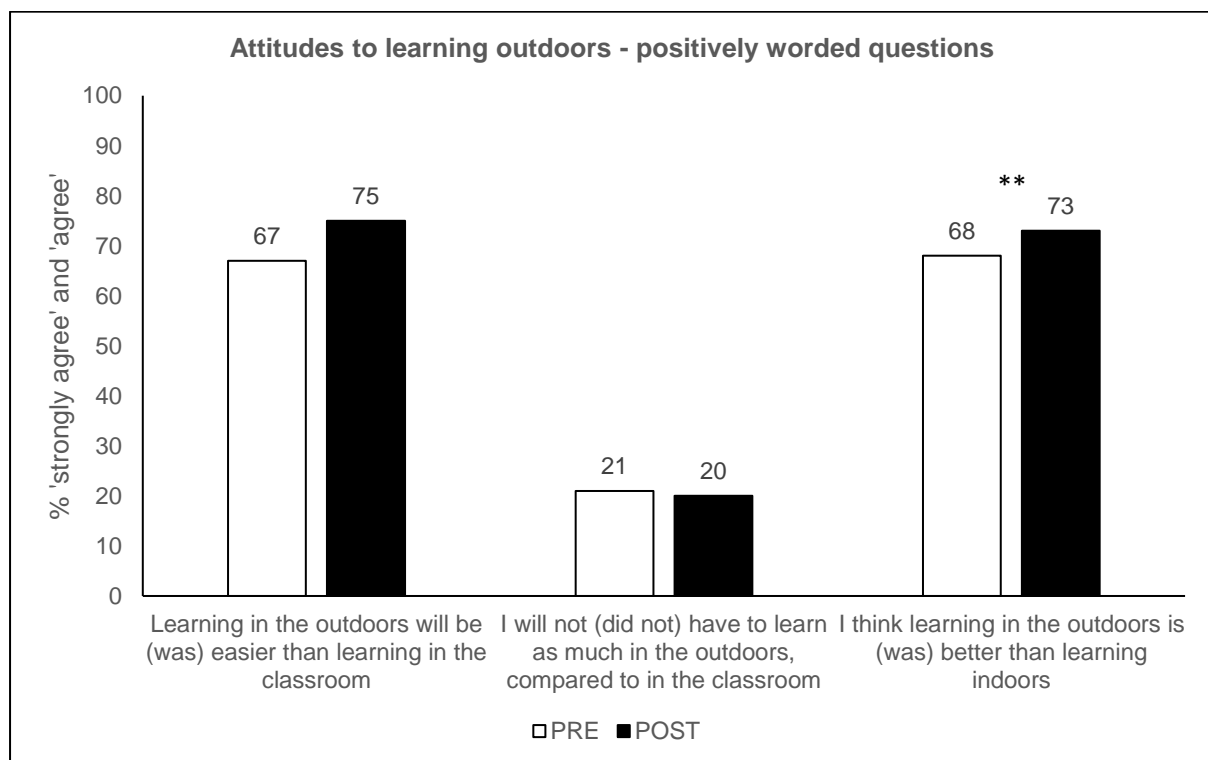
A set of questions to consider the children's attitudes to learning outdoors was included in the pre and post-programme questionnaires. These were adapted from another study that evaluated children's participation in outdoor learning (Kerr, 2014):

- Learning in the outdoors will be (was) easier than learning in the classroom
- I will (did not) not have to learn as much in the outdoors, compared to in the classroom
- I don't (didn't) like learning in the outdoors
- I think learning in the outdoors will be (was) too difficult

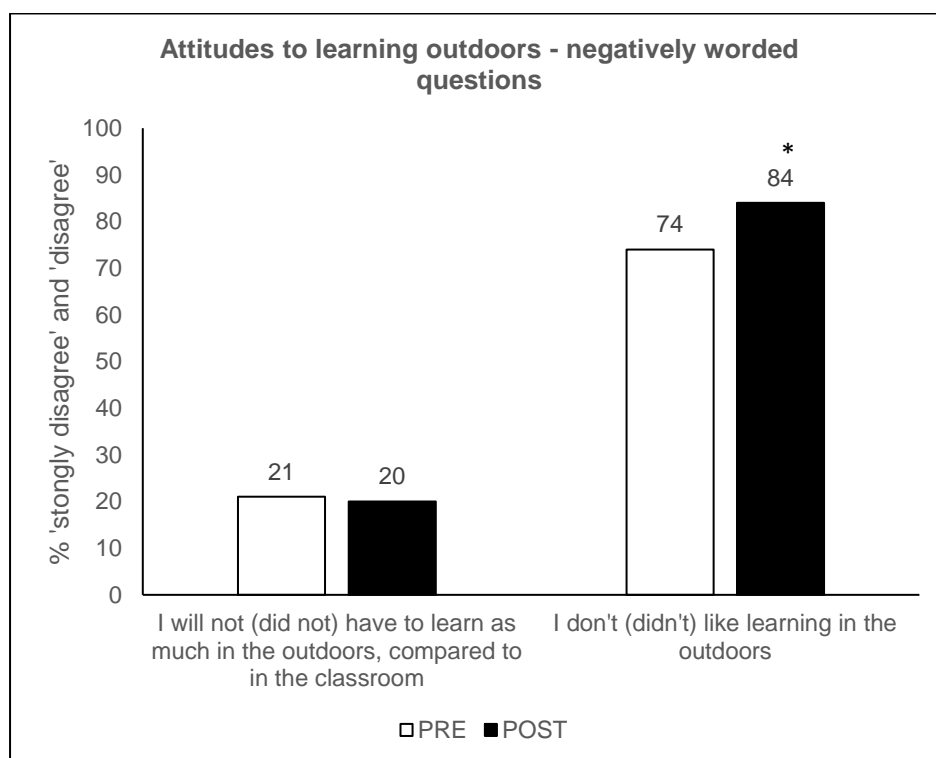
- I think learning in the outdoors is (was) better than learning indoors

The wording in the brackets shows the slight rephrasing necessary for the post-programme questionnaire. Some of the questions are positively worded (the first, second and fifth) and some are negatively worded (the third and fourth). This is purposeful as it aids the checking of reliability. In other words, that a respondent will answer in a positive way regardless of how a question is worded. For example 'strongly agree' is the most positive response option for the first question [Learning in the outdoors will be (was) easier than learning in the classroom] but 'strongly disagree' is the most positive response for the third question [I don't (didn't) like learning in the outdoors]. A full outline of the questions and response options are outlined in Appendix 1.

Figure 6 shows the percentage of positive responses for each of the positively worded questions related to attitudes towards learning outdoors, for the pre-programme and post-programme questionnaires. The y-axis present the total figures for children who selected the positive options ('strongly agree' or 'agree'). Figure 7 shows the percentage of positive responses for each of the negatively worded questions related to attitudes towards learning outdoors, for the pre-programme and post-programme questionnaires. In this instance, the y-axis presents the total figures for children who selected the positive options ('strongly disagree' or 'disagree').



**Figure 6: A bar graph to show the percentage of 'strongly agree' and 'agree' responses for the positively worded questions related to attitudes to learning outdoors (pre and post), n=147 (pre), 140 (post). \*\* represents significance at  $p < 0.01$ .**



**Figure 7: A bar graph to show the percentage of 'strongly disagree' and 'disagree' responses for the negatively worded questions related to attitudes to learning outdoors (pre and post), n=147 (pre), 140 (post). \* represents a significant difference at  $p < 0.05$ .**

A paired samples t-test was conducted for all of the items related to attitudes to learning outdoors to compare if the mean scores at pre-programme and post-programme were statistically significantly different in a positive direction. This was the case for two items:

- I don't (didn't) like learning in the outdoors ( $p=0.035$ )
- I think learning in the outdoors is (was) better than learning indoors ( $p=0.005$ )

As a reminder, a p-value of  $< 0.05$  indicates a statistically significant difference, a p-value of  $< 0.01$  indicates a highly significant difference and a p-value of  $< 0.001$  indicates a very high significant difference. In other words, the first item here indicates a significant difference and the second one a highly significant difference between the pre and post-programme responses. Both are in a positive direction, meaning the children answered more positively at the end of the programme compared to when it started.

The children were also asked 'What word best describes how you feel about learning outdoors?' Table 4 presents a summary of their responses in both the pre and post-programme questionnaires. For example, approximately 50% of the post-programme responses related to being happy, that learning outdoors is 'good' or 'fun' and that they loved it/liked it and were excited. Full details of the words recorded by the children can be found in Appendix 2.

Response type	PRE		POST	
	Frequency of response	% of responses	Frequency of response	% of responses
Positive words	108	83.7	132	92.8
Neutral words	15	11.6	6	4.2
Negative words	6	4.7	4	2.8
<b>TOTAL</b>	129		142	

**Table 4: A summary of the children's responses to 'What word best describes how you feel about learning outdoors' (pre and post)**

These results show that, for four out of five items related to attitudes to learning outdoors, the children in this evaluation answered more positively in the post-programme questionnaire compared to the pre-programme questionnaire. In particular, there was a positive statistically significant difference in the pre and post responses to two items: 'I don't (didn't) like learning in the outdoors' ( $p < 0.05$ ) and 'I think learning in the outdoors is (was) better than learning indoors' ( $p < 0.01$ ). When asked to record a word which best describes how they feel about learning outdoors a higher percentage of responses were positive in the post-programme questionnaire (92.8%) compared with the pre-programme questionnaire (83.7%). An increase in open responses is noteworthy, as children could have responded in any way, given that there were no set response options for this question.

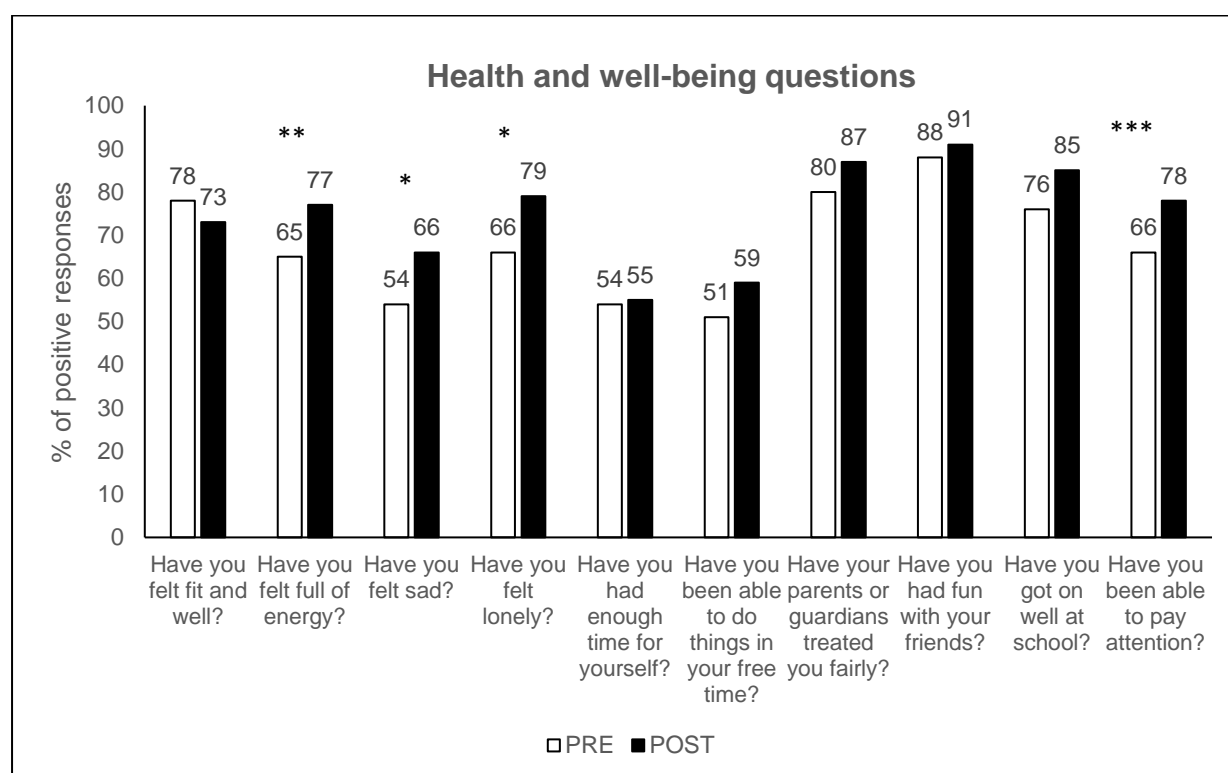
### 4.3 Health and well-being

The pre and post-programme questionnaires also included a group of questions related to the children's health-related quality of life, the KIDSCREEN 10 measure (Ravens-Sieberer et al., 2010) – a well cited and researched measure of children's health-related quality of life and well-being. The items on the KIDSCREEN measure included the following questions:

- Have you felt fit and well?
- Have you felt full of energy?
- Have you felt sad?
- Have you felt lonely?
- Have you had enough time for yourself?
- Have you been able to do things in your free time?
- Have your parents or guardians treated you fairly?
- Have you had fun with your friends?
- Have you got on well at school?
- Have you been able to pay attention?

A full outline of the questions and response options are outlined in Appendix 1. Figure 8 shows the percentage of positive responses for each of the KIDSCREEN 10 health and well-being questions, for the pre-programme and post-programme questionnaires.





**Figure 8: A bar graph to show the percentage of positive responses for the KIDSCREEN 10 health and well-being questions (pre and post), n=150 (pre), 140 (post). \* represents a significant difference at  $p < 0.05$ , \*\* represents significance at  $p < 0.01$ .**

A paired samples t-test was conducted for each of the items to compare if the mean scores at pre-programme and post-programme were statistically significantly different. These were all in a positive direction meaning the children answered more positively after the programmes, compared with their responses at the start. This was the case for four items:

- Have you felt full of energy? ( $p=0.005$ )
- Have you felt sad? ( $p=0.032$ )
- Have you felt lonely? ( $p=0.027$ )
- Have you been able to pay attention? ( $p=0.0008$ )

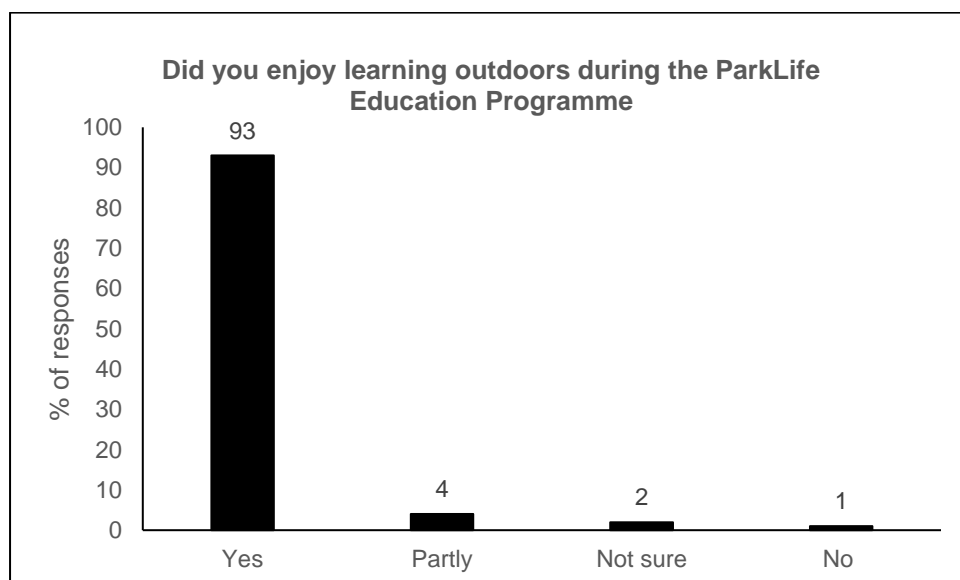
These results show that, for nine out of 10 items related to health and well-being, the children in this evaluation answered more positively in the post-programme questionnaire compared to the pre-programme questionnaire. In particular, there was a statistically significant difference in the pre and post responses to four items: 'Have you felt full of energy?' ( $p < 0.01$ , a highly significant difference), 'Have you felt sad?' ( $p < 0.05$ ), 'Have you felt lonely?' ( $p < 0.05$ ) and 'Have you been able to pay attention?' ( $p < 0.001$ , a very high significant difference). These differences were all in a positive direction, meaning the children answered more positively at the end of the programme compared to at the start.

# The children's evaluation

In the post programme questionnaire, the children were asked several questions about their experience of the ParkLife Education Programme:

- Did you enjoy learning outdoors during the ParkLife Education Programme? Why or why not?
- After the ParkLife Education Programme, what are your two best memories of learning outdoors?
- During the ParkLife Education Programme, were there any problems when you were learning outdoors? If so, what were they and how were they put right?
- Now that the ParkLife Education Programme is over, what worries do you still have about learning outdoors?
- If you were running the ParkLife Education programme, how would you teach in the outdoors?

In total 93% of the children who responded in the post-programme questionnaire said they enjoyed learning outdoors during the ParkLife Education Programme. Figure 9 presents the results from this question.



**Figure 9: A bar graph to show the percentage of responses for the 'Did you enjoy learning outdoors during the ParkLife Education Programme?', n=139.**

When asked why they enjoyed the programme (or why not), 131 children responded with 170 phrases/comments. In total, 93% of these comments were positive, 3.5% of the comments were 'don't know/not sure/undecided' and 3.5% of the comments were negative. Table 5 presents a summary of these phrases/comments.

Positive phrases/comments	Frequency of response	% of responses
	<b>158</b>	<b>93%</b>
Fun	59	34.7
Learning (new things/about nature)	29	17.1
See things/enjoy nature/do things for real	22	12.9
Love/like (learning) outdoors	19	11.2
Liked/enjoyed specific activities	11	6.5
Like/love animals	6	3.5
Take care of nature/learn how to	5	2.9
Fresh air/not in a warm room	4	2.4
Easy	3	1.8
<b>Neutral phrases/comments</b>	<b>6</b>	<b>3.5%</b>
Don't know/not sure/undecided	6	3.5
<b>Negative phrases/comments</b>	<b>6</b>	<b>3.5%</b>
Cold	3	1.8
Gross/touching things	2	1.2
Boring	1	0.6
<b>TOTAL</b>	<b>170</b>	

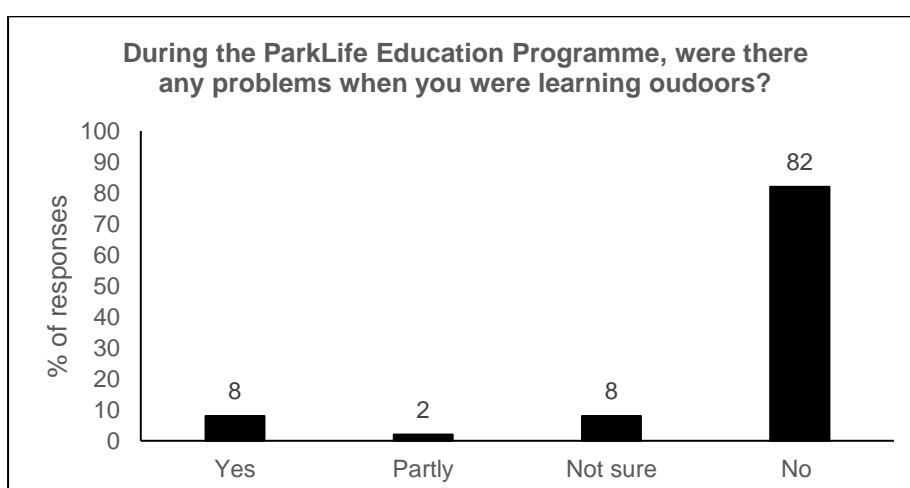
**Table 5: A summary of the children's responses in relation to why they did (or did not) like learning in the outdoors during the ParkLife Education Programme.**

Table 5 shows that the majority of responses were about having 'fun' and 'learning' during the ParkLife Education Programme. Very few phrases were negative. The children were also asked to record their two best memories of learning outdoors. In total, 120 children responded with 192 phrases/comments. In total, 96.4% of these comments recounting the programme positively, 3.1% of the comments were 'don't know' and 0.5% of the comments (one comment) were negative, where a child recorded 'none'. Table 6 presents a summary of these phrases/comments.

Positive phrases/comments	Frequency of response	% of responses
	185	96.4%
Learning (animals/bugs/nature)	36	18.6
Digging/for worms	33	17.2
Finding/collecting/looking at mini beasts/bugs	22	11.5
Feeling/seeing things	20	10.4
Games/puzzles/competitions	16	8.3
Finding/collecting things	16	8.3
Playing/walking/having fun (with friends)	14	7.3
Planting	7	3.6
Everything	6	3.1
Making bug homes/hotels	6	3.1
Making things	5	2.6
Named a tree	2	1.0
Our song	1	0.5
The first day	1	0.5
Neutral phrases/comments	6	3.1%
Don't know	6	3.1
Negative phrases/comments	1	0.5%
None	1	0.5
<b>TOTAL</b>	192	

**Table 6: A summary of the children's responses in relation to two best memories of learning outdoors.**

The children were also asked to reflect on whether there were any problems whilst they were learning outdoors and, if so, what the problems were and how they were put right. Figure 10 presents the results from the question 'During the ParkLife Education Programme, were there any problems when you were learning outdoors?' In total, 82% of the children who responded to this question said there were no problems, 8% said not sure, 2% responded 'partly' and 8% said there were problems.



**Figure 10: A bar graph to show the percentage of responses for the 'During the ParkLife Education Programme, were there any problems when you were learning outdoors?', n=139.**

In an open question, the children were then asked that, if there were problems, what were they and how were they put right. In total, only 44 children responded to this question with 27 of these comments considered positive (*Nothing/no problems/put right* = 17; *Environmental/animal welfare issues* = 8; *Would let the bugs go again* = 1; *Ulster Wildlife person came to classroom because it was raining* = 1), 15 comments were 'don't know' and only two comments were negative (*Could not always understand what the teacher said* = 1; *Classmates treating badly* = 1).

The children were asked, in an open question, 'Now that the ParkLife Education Programme is over, what worries do you still have about learning outdoors?' In total, 100 children responded to this question with 64% of comments recorded as 'None/nothing/like it' and 7% of comments were 'don't know'. On the other hand, 26% of the comments were considered negative and these are outlined below:

- Environmental/animal cruelty issues = 9 comments (9%)
- Getting things wrong = 7 comments (7%)
- Getting hurt/stung = 5 comments (5%)
- Still scared/worried/didn't like it = 5 comments (5%)

It is important to note that 9% of these worries are related to the environment, and not the ParkLife Education Programme specifically.

Finally, at the end of the questionnaire, the children were asked 'If you were running the ParkLife Education programme, how would you teach in the outdoors?' In total, 114 children responded to this question with 130 comments. Overall, 13.8% of these comments were 'don't know'. All of the other comments presented ideas. A summary of these is outlined below, together with the percentage of responses for each area/idea:

- Teach/learn content/approaches from ParkLife Education Programme = 35 comments (27.0%)
- Good/well/clearly/nicely = 21 comments (16.2%)
- Nature/animal preservation/care/importance = 18 comments (13.8%)
- In a fun/happy way = 14 comments (10.8%)
- Same as ParkLife Education Programme teacher = 9 comments (6.9%)
- Fairly = 6 comments (4.6%)
- Safely/clean/dry = 5 comments (3.8%)
- Games = 4 comments (3.1%)

It is interesting to note that 27% of these comments specifically mentioned teaching/content/approaches from the ParkLife Education Programme and a further 6.9% of the comments specifically mentioned teaching in the same way as their programme teacher. Also, 13.8% of the comments were about nature/animal preservation/care/importance which are all part of the ParkLife Education Programme.

The findings presented in this section show that the children evaluated the ParkLife Education Programme very positively with 93% saying they enjoyed learning outdoors during the programme with 93% of subsequent open responses also being positive and mainly focused how fun the programme was and the learning which took place. When asked about their two best memories of the programme, 96.4% of the open responses were positive and the children

talked about a wide range of specific activities which they took part in. When asked if there were any problems when they were learning outdoors 82% of the children who responded said there were no problems and, in a follow up open question, the majority of children said there were no problems. When asked if they still have worries about learning outdoors, after the programme, 64% of the comments were 'none/nothing/liked it' and of the 26% of negative comments, only 17% could be related to the programme (17 comments). Many of the comments related to how they children would teach in the outdoors were related to the ParkLife Education Programme. Overall, with several reflective questions, the children involved in this evaluation reflected very positively on the programme.

# Key findings and Recommendations

## 6.1 Key findings

This report presents findings from an evaluation of the Belfast City Council's (BCC) ParkLife Education Programme which ran between September 2016 and June 2017. In total, 169 children in eight schools in the Belfast area took part in the evaluation for the programme. They completed pre-programme and post-programme questionnaires which included a range of measures designed to investigate the primary and secondary outcomes of the programme. The key findings for each outcome are summarised below:

### **Primary outcomes**

- *Spend more time engaging with nature in their local parks.* After the ParkLife Education Programme:
  - More children selected the options which represent a higher frequency of visits to their park (for example 'Every day') and fewer children recorded 'Never' and more children reported going to the park with their family, friends and with their teacher.
  - More children also reported going to the park for almost all of the listed activities. Of particular note is the increase in the percentage of children who reported going to the park to 'enjoy nature' (pre = 33%, post = 48%) and to 'play' (pre = 61%, post = 80%).
  - In relation to the children's favourite activities outside school, there was an increase in the percentage of children who mentioned outdoor/ nature activities (pre=0, post=12%) particularly noteworthy given that this was an open response question.
- *Have learned more about their local park.* After the ParkLife Education Programme:
  - More children gave correct responses to each of the knowledge based questions designed to test the main knowledge content of the programme.
- *Be more connected to nature.* After the ParkLife Education Programme:
  - The children rated their connection to nature, overall and across all subscales, as higher. In other words, the children were more positive about their general connection to nature, their empathy for creatures, their sense of oneness with nature, their sense of responsibility for nature and their enjoyment of nature. It is particularly good that there was a positive change in all these areas.
  - Whilst the children in this study had a slightly higher score in most areas (with the exception of 'sense of responsibility') in comparison to a national baseline



(Kerr, 2015) their scores on the post-programme questionnaire were much higher than their scores on their pre-questionnaire and in comparison to all areas of the baseline.

### **Secondary outcomes**

- *Have more positive attitudes towards and awareness of environmental sustainability.*  
After the ParkLife Education Programme:
  - The children answered more positively for eight out of 11 items related to attitudes to sustainability. In particular, there was a statistically significant difference (in a positive direction) between the pre and post responses to two items: 'Nature is strong enough to handle the damage caused by our modern lifestyles' (at  $p < 0.05$ ) and 'People are treating nature very badly' (at  $p < 0.05$ ).
  - When asked to write down a problem happening in the environment 'at the moment', the children's responses on the post-programme questionnaire evidenced a greater variety of issues. For example, whilst there was more of a focus on littering/rubbish/dirt/trash and animal cruelty/dying in the pre and post-programme questionnaires, the children also recorded wider issues such as animals having no food or homes, being endangered/not free and that bugs and plants are being harmed. They also focused more on pollution in the post-programme questionnaire. This is noteworthy given that this question was an open response item and the children had a choice to write any response in the answer space.
- *Have more positive attitudes to learning outdoors.* After the ParkLife Education Programme:
  - The children answered more positively for four out of five items related to attitudes to learning outdoors. In particular, there was a statistically significant difference in the pre and post responses to two items: 'I don't (didn't) like learning in the outdoors' ( $p < 0.05$ ) and 'I think learning in the outdoors is (was) better than learning indoors' ( $p < 0.01$ ). These were both in a positive direction as the children answered more positively in the post-programme questionnaire.
  - When asked to record a word which best describes how they feel about learning outdoors a higher percentage of responses were positive in the post-programme questionnaire (92.8%) compared with the pre-programme questionnaire (83.7%). For example, approximately 50% of the post-programme responses related to being happy, that learning outdoors is 'good' or 'fun' and that they loved it/liked it and were excited. An increase in open responses is noteworthy, as children could have responded in any way, given that there were no set response options for this question.
- *Rate their health and well-being as higher.* After the ParkLife Education Programme:
  - The children answered more positively for nine out of 10 items related to health and well-being. In particular, there was a statistically significant difference in the pre and post responses to four items: 'Have you felt full of energy?' ( $p < 0.01$ ), 'Have you felt sad?' ( $p < 0.05$ ), 'Have you felt lonely?' ( $p < 0.05$ ) and 'Have you been able to pay attention?' ( $p < 0.001$ ). All of these were both in a positive direction as the children answered more positively in the post-programme questionnaire, which demonstrates the impact of the programme on the children's perceptions of their health and well-being.

When asked several questions about their experiences and reflections on the ParkLife Education Programme, the children were very positive, with 93% saying they enjoyed learning outdoors during the programme with 93% of subsequent open responses also being positive and mainly focused how fun the programme was and the learning which took place. When asked about their two best memories of the programme, 96.4% of the open responses were positive and the children talked about a wide range of specific activities which they took part in. For example, the most common responses were about 'learning' (animals/bugs/nature), 'digging/for worms', finding/collecting/looking at mini beasts/bugs and feeling/seeing things. All of these activities are a major part of the ParkLife Education Programme and the children remember them very well and fondly.

When asked if there were any problems when they were learning outdoors 82% of the children who responded said there were no problems and, in a follow up open question, the majority of children said there were no problems. When asked if they still have worries about learning outdoors, after the programme, 64% of the comments were 'none/nothing/liked it' and of the 26% of negative comments, only 17% could be related to the learning (17 comments). Many of the comments related to how they children would teach in the outdoors were related to the ParkLife Education Programme.

## 6.2 Recommendations

Based on the findings presented in this report, it can be concluded that the ParkLife Education Programme evidences a positive evaluation and the following recommendations can be presented.

Recommendations for the ParkLife Education Programme:

- Learning outdoors through this programme, in local parks, is a very positive experience for children and should be considered as good practice. This positive experience has an impact across many areas: learning, attitudes to learning outdoors, connection to nature, attitudes and awareness of environmental sustainability and their rating of their health and well-being.
- That the programme continues to be delivered in its current model so many more children can benefit.
- Belfast City Council should consider sharing their learning from the programme and this report with other councils and organisations.

Recommendations for future research:

- It is also recommended that this evaluation be continued with subsequent cohorts to increase the sample size, to look in more depth at the programme and to build a bigger evidence base as well as to consider potential further outcomes not considered in the current study.
- Given the depth and richness of the children's responses to the open question, a further evaluation study should include a qualitative study with, for example, focus groups. Speaking to the children face-to-face presents an opportunity to look in more depth at their understanding from the programme and the benefits for them expressed in their own words. It also affords the opportunity for them to reflect on and offer explanations for the findings from the questionnaire data.



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# Appendix 1

An overview of the analysed questions/scales from the pre and post-programme questionnaires

Questions/Scale (if applicable)	Response options/response groups
<b>Background factors</b>	
Are you a boy or a girl?	Boy Girl
How old are you?	8 9 10 11 12 Other (if other, please write your age in the box below)
What is the name of your school?	Open response
In which country were you born?	Northern Ireland England Wales Scotland Republic of Ireland I don't know Somewhere else (please say where in the box below)
Have you had lessons in the outdoors before?	Yes No Don't know
If yes: Where was it and what did you do?	Open response
You are about to take part in the ParkLife Education programme with your class. Do you know anybody who has taken part in the programme before?	Yes No Don't know
In the last question you said you know someone who has taken part in the ParkLife Education programme before. Who are they?	A friend A family member My class Another class in school Another person (please write who they are and how you know them in the box below)
<b>Engaging with nature in local parks</b>	
How often do you go to your park?	Every day A few times a week About once a month About once every six months About once a year Never

When you go to your park, who do you go there with?	On my own With my family With my friends With school [my teacher] With a club Other people (please write who they are and how you know them in the box below)
What activities do you do in your park?	Play Go for a walk Ride a bike Enjoy nature Meet friends Play sports Take a shortcut Attend events Walk the dog Attend clubs I don't know Other activities (please write the other activities in the box below)
What is your favourite activity outside school?	<i>Open response</i>
<b>Learned more about local park and wildlife</b>	
What are sycamore seeds often called?	Cars Helicopters Trucks I don't know
When do flowers appear on Daffodils?	Spring Summer Autumn Winter I don't know
Who owns your park?	Park wardens Ulster Wildlife The animals You The Council I don't know
Which was the first free park to open in Belfast?	Botanic Gardens Ormeau Park Waterworks I don't know
Which of these is the lightest?	A leaf A stone A branch I don't know
Why are hedges important?	Shelter They provide food They are home for wildlife (sometimes called a habitat) All of the above I don't know

Why are animals different colours?	To attract other animals To scare other animals To blend into their environment (sometimes called camouflage) All of the above I don't know
<b>Connection to Nature</b>	
<b>Enjoyment of Nature subscale</b>	Strongly disagree
I like to hear different sounds in nature	Disagree
I like to see wild flowers in nature	Neither agree nor disagree
When I feel sad, I like to go outside and enjoy nature	Agree
Being in the natural environment makes me feel peaceful	Strongly agree
I like to garden	
Collecting rocks and shells is fun	
Being outdoors makes me happy*	
<b>Empathy for Creatures subscale</b>	
I feel sad when wild animals are hurt	
I like to see wild animals living in a clean environment	
I enjoy touching animals and plants	
Taking care of animals is important to me	
<b>Sense of Oneness subscale</b>	
Humans are part of the natural world	
People cannot live without plants and animals	
Being outdoors makes me happy*	
<b>Sense of Responsibility subscale</b>	
My actions will make the natural world different	
Picking up trash on the ground can help the environment	
People do not have the right to change the natural environment	
<b>Attitudes towards and awareness of environmental sustainability</b>	
Soon there will be too many people for the Earth to support	Strongly agree
Nature is strong enough to handle the damage caused by our modern lifestyles	Agree a little
People are clever enough to keep from ruining the Earth completely	Not sure
People were created to rule over nature	Disagree a little
When people mess with nature it often ends up with bad results	Disagree
Plants and animals are mainly on Earth to be used by people	
To make sure everyone can live well, industries and jobs across the world need to grow steadily, not too fast	
People must live in balance with nature to survive	
The Earth is like a spaceship - there's limited room and not so many resources	
People will someday know enough about how nature works to be able to control it	
People are treating nature very badly	
If you can, please write down a problem that's happening in the environment at the moment	Open response



<b>Attitudes to learning outdoors</b>	
Learning in the outdoors will be (was) easier than learning in the classroom	Strongly agree Agree a little Not sure Disagree a little Strongly disagree
I will (did not) not have to learn as much in the outdoors, compared to in the classroom	
I don't (didn't) like learning in the outdoors	
I think learning in the outdoors will be (was) too difficult	
I think learning in the outdoors is (was) better than learning indoors	
What word best describes how you feel about learning outdoors? (pre) Now that the Parklife Education Programme is over, what word best describes how you now feel about learning outdoors? (post)	Open response
<b>Health and well-being: The KIDSCREEN-10 measure</b>	
Have you felt fit and well?	Never Slightly Moderately Very Extremely
Have you felt full of energy?	Never Seldom Quite often Very often Always
Have you felt sad?	Always Often Sometimes Seldom Never
Have you felt lonely?	Always Often Sometimes Seldom Never
Have you had enough time for yourself?	Never Seldom Quite often Very often Always
Have you been able to do things in your free time?	Never Seldom Quite often Very often Always
Have your parents or guardians treated you fairly?	Never Seldom Quite often Very often Always

Have you had fun with your friends?	Never Seldom Quite often Very often Always
Have you got on well at school?	Not at all Slightly Moderately Very Extremely
Have you been able to pay attention?	Never Seldom Quite often Very often Always
<b>The children's evaluation</b>	
Did you enjoy learning outdoors during the ParkLife Education Programme?	Yes No Partly Not sure
Why or why not?	<i>Open response</i>
After the ParkLife Education Programme, what are you two best memories of learning outdoors?	<i>Open response</i>
During the ParkLife Education Programme, were there any problems when you were learning outdoors?	Yes No Partly Not sure
If so, what were they and how were they put right?	<i>Open response</i>
Now that the ParkLife Education Programme is over, what worries do you still have about learning outdoors?	<i>Open response</i>
If you were running the ParkLife Education programme, how would you teach in the outdoors?	<i>Open response</i>

\*Although this question appears in two subscales, it is only asked once on the questionnaire

# Appendix 2

*A complete list of the children's Responses to 'What word best describes how you feel about learning outdoors?' in the pre and post-programme questionnaires.*

## PRE-PROGRAMME QUESTIONNAIRE

Positive words	Frequency	% of responses
	<b>108</b>	<b>83.7</b>
Happy	26	20.2
Excited/excitable	13	10.1
Fun	10	7.7
Good	10	7.7
Like/love/love it/outdoors	9	7.0
Peaceful	8	6.2
Fantastic	4	3.1
Cool	3	2.3
Great	3	2.3
Amazing	2	1.6
Brilliant	2	1.6
Better than indoors	2	1.6
Play/ with friends	2	1.6
OK	2	1.6
Awesome	1	0.8
Confident	1	0.8
Curious	1	0.8
Enchanting	1	0.8
Extraordinary	1	0.8
Fantastic	1	0.8
Hedgehogs	1	0.8
Nice	1	0.8
Protective	1	0.8
Speechless	1	0.8
Want to dance	1	0.8
Wonderful	1	0.8
<b>Neutral words</b>	<b>15</b>	<b>11.6</b>
Don't know	11	8.4
Not sure/unsure	4	3.1
<b>Negative words</b>	<b>6</b>	<b>4.7</b>
Chores	1	0.8
Cold	1	0.8
Shy	1	0.8
Nerves	1	0.8
Sad	1	0.8
Speechless	1	0.8
<b>TOTAL</b>	<b>129</b>	

## POST-PROGRAMME QUESTIONNAIRE

Positive words	Frequency	% of responses
	132	92.8
Happy	34	24.0
Good	13	9.2
Fun	12	8.5
Like/Love/loved it	8	5.6
Excited	5	3.5
Fantastic	5	3.5
Great	5	3.5
Positively mention PEP	4	2.8
Amazed/amazing	3	2.1
Learned	3	2.1
Nature/naturey	3	2.1
Brilliant	2	1.4
Confident	2	1.4
Digging	2	1.4
Incredible	2	1.4
Interesting	2	1.4
Joyful	2	1.4
Peaceful	2	1.4
Sad it's over	2	1.4
Active	1	0.7
Awesome	1	0.7
Better	1	0.7
Calm	1	0.7
Cool	1	0.7
Encourages me to go outside more	1	0.7
Enjoyed	1	0.7
Excellent	1	0.7
Fab	1	0.7
Gleeful	1	0.7
Important	1	0.7
Instantly not regretful	1	0.7
Magnificent	1	0.7
OK	1	0.7
Perfect	1	0.7
Plants	1	0.7
Satisfying	1	0.7
Sorry for the animals	1	0.7
Strange but nice	1	0.7
Super	1	0.7
Tell the world about it	1	0.7
<b>Neutral words</b>	<b>6</b>	<b>4.2</b>
Don't know	6	4.2
<b>Negative words</b>	<b>4</b>	<b>2.8</b>
Sad	2	1.4
Hard	1	0.7
Terrible	1	0.7
<b>TOTAL</b>	<b>142</b>	



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